Master of Science in
ENVIRONMENTAL MANAGEMENT
Managing environmental issues in multifaceted contexts

Apply now for entry in September 2022
The MSc in Environmental Management is an inter-faculty multi-disciplinary coursework programme, with:

- a strong focus on management perspectives surrounding a wide variety of environmental and sustainability issues
- course materials focusing on Hong Kong, yet with a strong international and comparative dimension
- courses taught by a group of internationally-recognised experts, including ecologists, engineers, planners, economists, lawyers, environmentalists from HKU and local practitioners in the field

The programme started in 1989, though its contents have evolved over time, its primary objective of providing a broad, integrated overview remains unchanged.

World-class Rankings of HKU

<table>
<thead>
<tr>
<th>Quacquarelli Symonds (QS)</th>
<th>Times Higher Education (THE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Rankings 2021</td>
<td>#22 World Rankings 2021</td>
</tr>
<tr>
<td>Asia Rankings 2021</td>
<td>#4 Asia Rankings 2022</td>
</tr>
</tbody>
</table>

Quacquarelli Symonds (QS)

Eminent Subject Rankings

- #51 Environmental Sciences
- #50 Earth & Marine Sciences
- #51 Biological Sciences

QS World University Rankings by Subject 2020:

- #51 World Rankings 2020
- #51 Asia Rankings 2021

Top-notch Scientists in the Faculty

16.5% of our professoriate staff are the world's Top 1% scholars

Professional recognition

This programme is accredited for direct application to the Graduate IEMA membership and BEAM Affiliate qualification.

Transferable skills

- Emphasises on the analysis of environmental and sustainability problems to gain a more adequate understanding of their nature and causes, and the remedial options available to tackle them.
- Offers opportunities for the development of specialist interests and skills through optional courses and research dissertation.

Career development

Over 1,000 graduates of the programme are now pursuing successful careers in government departments, environmental consultancies, NGOs and various industries.

Prizes

Each year Ada and Arthur Hill Prize in Environmental Management and Fred Kan and Co. Prize are awarded to meritorious students.

Why this Programme

- Provides a comprehensive training in environmental management, addressing major environmental problems in the social, legal and economic contexts.
- Gives a basic introduction to many aspects of environmental science and environmental engineering as well as legal and policy-related concerns.

What the Programme Covers

- World-class Rankings of HKU
- Professional recognition
- Transferable skills
- Career development
- Prizes

School of Biological Sciences

The School was founded in 2007 following the merger of the Departments of Zoology, Botany, and Ecology & Biodiversity. Our members are committed to undertaking research of the highest standard that will be read, cited and applied by colleagues internationally.

Members of the Division of Ecology & Biodiversity place a strong emphasis on studying the effects of environmental change, including:

- Impacts of climate change driven by global warming on terrestrial plants and animals;
- Consequences of global warming and ocean acidification on marine ecosystems;
- Paleocology of biodiversity associated with historical climate change;
- Pollution impacts and the restoration of ecosystems;
- The international wildlife trade; and
- The global homogenisation of biota through human facilitation of invasive species.

Study load

- Credits: 60 credits
- Learning hours: ~1,200-1,800 hours (including 180-270 hours for project and contact hours of 240-360 hours)
- Teaching: mainly on weekday evenings (3-4 classes each week)
- Occasional teaching sessions on Saturdays
- There will be field trips in several courses

Tuition fees

- Composition fee: HK$130,000 (subject to approval)
- Students are required to pay Caution Money (HK$350, refundable on graduation subject to no claims being made) and Graduation Fee (HK$350)

Programme duration

- Full-time: 1 year
- Part-time: 2 years

Medium of Instruction

- English

Assessment

- Written coursework and/or examinations
- A dissertation or project on a topic of the student’s choice

Graduation Fee (HK$350)

Students are required to pay Caution Money (HK$350, refundable on graduation subject to no claims being made) and Graduation Fee (HK$350)

Practitioners in relevant disciplines – engineering, ecology, environmental science, education, urban planning, corporate sustainability and journalism, etc.

Hear from our graduate

Upon graduating from my bachelor’s degree, I was deciding between pursuing a postgraduate degree or getting a job. Knowing that the MSc in Environmental Management curriculum covers a wide range of disciplines and expertise and is handled by the top experts from HKU and lecturers from the environmental field, I decided to study this part-time MSc. I am thankful that I could grasp the best of both paths, working while still able to conduct scientific research. Although the process has been challenging and tough, I treasure the chance to conduct the dissertation, which has now become a milestone of my life.

Kelvin Jun Yin SO

Class of 2019

Who should Take this Programme

Fresh graduates and people who intend to pursue a career in environmental management or enhance their understanding of this field

Class of 2019

Kelvin Jun Yin SO

Who will this Programme Lead You

Diploma in Environmental Management

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Class of 2019
Programme structure

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<tr>
<th>Year 1 (30-33 credits)</th>
<th>Year 2 (27-30 credits)</th>
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<tbody>
<tr>
<td><strong>Core Courses</strong></td>
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</tr>
<tr>
<td>ENVM7003 Introduction to ecology (3 credits)</td>
<td>ENVM8003 Conservation biology and management (3 credits)</td>
</tr>
<tr>
<td>ENVM7012 Environmental economics and analysis (3 credits)</td>
<td>ENVM8004 Environmental auditing and reporting (3 credits)</td>
</tr>
<tr>
<td>ENVM7013 Sustainability, society and environmental management (3 credits)</td>
<td>ENVM8007 Environmental law in Hong Kong (3 credits)</td>
</tr>
<tr>
<td>ENVM7014 Environmental quality management (6 credits)</td>
<td>ENVM8010 Urban planning and environmental management (3 credits)</td>
</tr>
<tr>
<td>ENVM7015 Research methods and report writing in environmental management (6 credits)</td>
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</tr>
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<td>ENVM7016 Environmental policy (3 credits)</td>
<td>ENVM8019 Corporate sustainability (3 credits)</td>
</tr>
<tr>
<td>ENVM7017 Environmental law in Hong Kong (3 credits)</td>
<td>ENVM8020 Green buildings and energy management (3 credits)</td>
</tr>
<tr>
<td>ENVM7018 Environmental field studies (3 credits)</td>
<td>ENVM8022 Environmental management internship (6 credits)^2</td>
</tr>
<tr>
<td>ENVM7019 Ecological field studies (3 credits)</td>
<td>ENVM8021 Directed studies in environmental management (6 credits)</td>
</tr>
<tr>
<td><strong>Elective Courses</strong></td>
<td></td>
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<tr>
<td>ENVM6003 Conservation biology and management (3 credits)</td>
<td>ENVM8011 Air and noise pollution control and management (3 credits)</td>
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<tr>
<td>ENVM6004 Environmental auditing and reporting (3 credits)</td>
<td>ENVM8012 Environmental health and risk assessment (3 credits)</td>
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<tr>
<td>ENVM6005 Special topics in environmental management (3 credits)</td>
<td>ENVM8013 Air and noise pollution control and management (3 credits)</td>
</tr>
<tr>
<td>ENVM6006 Environmental impact assessment (3 credits)</td>
<td>ENVM8014 Environmental quality management (6 credits)</td>
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<tr>
<td>ENVM6007 Conservation and management of marine resources (3 credits)</td>
<td>ENVM8015 Directed studies in environmental management (6 credits)</td>
</tr>
<tr>
<td>ENVM6008 Urban planning and environmental management (3 credits)</td>
<td>ENVM8016 Conservation and management of freshwater resources (3 credits)</td>
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<td>ENVM6009 Corporate sustainability (3 credits)</td>
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<tr>
<td><strong>Total Credits</strong></td>
<td>60</td>
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**Core courses**

**ENVM7003 Introduction to ecology**

This course deals with the ecological processes determining the distribution and abundance of organisms, and which in turn govern the structure and function of communities and ecosystems. It focuses on how an understanding of ecology is important for environmental management and also incorporates a practical fieldwork component.

**ENVM7012 Environmental economics and analysis**

This course provides an introduction to economic concepts and principles and applies them to the analysis and management of environmental problems, with an illustration with current environmental and policy issues. Topics include the economic instruments for environmental problems, methods for valuing environmental goods and services, and economic tools for supporting decision-making.

**ENVM7013 Sustainability, society and environmental management**

This course explores and analyses the implementation of sustainability concept at macro- and micro- levels, covering a wide range of issues from international agreements and campaigns to local projects and practice. It uses a number of implementation tools including community engagement and sustainability assessment, and concludes with a series of real-life case investigations on innovative models to achieve sustainability in different contexts.

**ENVM7014 Environmental quality management**

This course introduces students to the types, sources and effects of environmental pollution and some of the key principles and strategies used in combating pollution and managing environmental quality. Topics include water and air quality management, solid waste management and noise pollution control, with an emphasis on the situation in Hong Kong.

**ENVM7015 Research methods and report writing in environmental management**

This course is intended both as preparation for the dissertation or project courses and as a general introduction to writing reports on environmental issues. Topics include research design, methodology and report writing. Other research skills such as avoiding plagiarism, literature search and review, reporting writing and giving oral presentations are covered.

**ENVM7016 Environmental policy**

This course focuses on key aspects of environmental policy making and the policy-implementation processes, such as how policy agendas emerge and evolve, how environmental discourse shapes policy outputs, and how institutions affect the trajectories and outcomes of environmental policy measures. Making references to local, national and international cases, it also examines the theories and praxis of policy transfer and convergence, and the perennial problems of policy integration, learning and failure.

**ENVM7017 Environmental law in Hong Kong**

This course focuses on the statutory interpretation of 4 principal Ordinances, namely Water Pollution Control Ordinance, Air Pollution Control Ordinance, Noise Control Ordinance and Wild Animal Protection Ordinance, and subsidiary legislation dealing with pollution and environmental protection in Hong Kong. Students will study the nature of environmental offences, the principles of Common Law, and the interpretation of relevant case law in order to better understand the current sentencing policies towards environmental offenders.

Remarks:

1. Students in full-time mode will be required to take all the 60 credits in a year
2. ENVM8022 Environmental management internship (6 credits) is only available to full-time students
3. The availability of courses may vary from year to year
4. The programme structure will be reviewed from time to time and is subject to change.
WHAT YOU WILL LEARN

ENVM7016 Environmental field studies
This experiential learning course aims to broaden students’ knowledge based on key aspects of environmental management and nature conservation through a series of field studies and visits to local and/or overseas organisations. Topics include conservation and biodiversity management, waste and wastewater treatment processes, water treatment processes, and corporate environmental management in practices. Field studies will be conducted in form of guided visits, field work, service learning and invited lectures or forums. Students are required to attend at least 6 sessions organised over the study period and may need to pay the participation fee of some local and/or non-local activities.

ENVM8006 Environmental impact assessment
Used widely around the world to identify the impacts of development projects as well as strategic plans and policies, Environmental Impact Assessment (EIA) plays a key role in many regulatory systems for the environment. This course reviews the development of different approaches to EIA, basic analytical principles, administrative and legal systems for EIA, assessments at the project and strategic levels, and case study applications in Hong Kong.

ENVM8021 Project
This is a group project to be carried out under the supervision of one or more teachers. The topic and content of the project will be agreed individually between students and the supervisor(s). Students may propose their own topics and approach potential supervisors, or they may consider those suggested by teachers. Apart from scientific research projects, creative projects such as the production of field guides, books, websites, videos, apps about the environment and action projects are encouraged.

Elective courses
ENVM8003 Conservation biology and management
Conservation biology is the essential scientific element in biodiversity conservation. The course covers the basic principles and methods of conservation biology from a management perspective. In reality, successful biodiversity conservation projects often require an integration of the welfare of local communities. As such, practical examples from Hong Kong and elsewhere will be used as case studies to illustrate the importance of different elements in conserving the world’s biodiversity.

ENVM8011 Environmental auditing and reporting
This course provides an introduction to environmental management, auditing and reporting, with elaboration of the development, implementation and continuous improvement of an environmental management system, concerning the ISO 14001:2015 standards. The methodology and skills of environmental audit concerning the ISO 19011:2011 would then be introduced. Process of carbon audit which is becoming important in environmental management by acting as a useful greenhouse gases measuring tool will also be explained. The function and importance of environmental reporting will be explained along with the contents of the Global Reporting Initiative Standards which is a convention guide for sustainability reporting.

ENVM8012 Environmental health and risk assessment
Environmental Risk Assessments (ERAs) are tools to determine the likelihood that contaminant releases posing risks to human health or the environment. Currently, ERAs are required under various regulations in many developed countries to support decision-makers in risk characterisation or the selection of cost-effective remedial cleanup. This course introduces the theory and practice of human and ecological risk assessments.

ENVM8013 Air and noise pollution control and management
This advanced course focuses on various technical aspects related to air and noise pollution control and their management issues. Topics include micrometeorology; air dispersion modelling; advanced air pollution control (e.g. process modification, energy audit and emission trading); case studies on the control of emissions from stationary and mobile source; the concept of sound propagation; basic principles of noise control; noise impact assessment and technical mitigation measures for construction, industrial, road traffic, railway and aircraft noise.

ENVM8014 Special topics in environmental management
The course covers hot topics in Hong Kong or overseas that are related to environmental management, and may vary from year to year. Examples of previous topics include urban tree management, slope greening, nature conservation versus development in rural Hong Kong and China, and sustainable development movements, etc. With careful consideration of the diverse needs of various stakeholders, management options are reviewed and evaluated.

ENVM8015 Directed studies in environmental management
This course provides an opportunity for students to study a topic of particular interest under the supervision of a teacher or an experienced environmental practitioner. The contents of this course will be agreed individually between the student and the supervisor which has to be endorsed by the course coordinator. Directed studies may include traditional research projects generating scientific paper or other study projects with creative outputs in environmental management such as audit reports; booklets; pamphlets; field guides; manuals; teaching modules and so on. The course is designed to allow a flexible approach in fixing the content and output of the directed studies.

ENVM8016 Conservation and management of freshwater resources
This course offers an introduction to the problems associated with human use of water and current patterns of water resource management. It explains how the characteristics of natural systems constrain sustainable use of water. Emphasis will be placed on examples of river and lake management that can indicate the reasons for success and failure of sustainable water resource use, with particular emphasis placed on regional examples. Students will gain an appreciation of the trade-offs inherent in water resource management, and the practices that can be adopted to conserve freshwater biodiversity in the complex context of maintaining human livelihoods.

Hear from our graduate
Jade Ka Yu LAM
Class of 2020
The MSc in Environmental Management programme provides students with opportunities to equip themselves via lectures, field studies, overseas visits, and internships. As a student, you will learn a lot of useful environmental skills for your future career. It would help to advance your career to be a consultant or researcher.

The most challenging part of this programme is the dissertation. To complete the dissertation, not only have I learnt to concentrate on research works, but I have also engaged experts and policy makers in the research project. One of the happiest moments in this programme is the field trip to Africa. It has inspired me to conserve the natural environment and recognise its importance. The moment with the beautiful nature is so unforgettable.
Programme Highlights

**WHAT YOU WILL LEARN**

for both the business and society as a whole, by their role and contribution to achieving sustainability. In recent years, the scope has extended from contributing to the social welfare of society through philanthropic contributions or avoiding environmental degradation to a new business approach that creates long term value to the social welfare of society through philanthropic contributions. This course lays down the challenges of achieving sustainability in cities. It highlights the important role of urban planning and its related tools and instruments in managing development pressure, mitigating environmental impacts, conserving ecological sensitive areas and achieving the society’s overall resilience. The course begins with an introduction to the fundamental functions and processes of planning. Illustrated with real-life case studies, the course then critically reviews the effectiveness of a series of planning tools, such as land use zonings, conservation trusts, partnership schemes, in resolving climate change and sustainability conflicts in both urban and rural contexts. The course adopts the Problem-based Learning approach where students will take lead and debate on selected current practice in the business sector, and thus guests from corporate sector will be invited to share their experience with students.

**ENVM8017 Conservation and management of marine resources**

The marine environment has been an essential source of its fortunes but today suffers from a range of perturbations, from pollution and habitat destruction, to community loss and over-exploitation. This course primarily deals with pressing issues of marine resource conservation and management in Hong Kong. An overview of the current global situation of marine resources will be presented with an emphasis on the local situation. The past and present exploitation of marine resources and human impacts on the marine ecosystem are addressed with a view to identifying problems and providing practical solutions. Real cases are taken from Hong Kong as an example to illustrate the crisis and its management options. The key topics of this course include marine pollution, habitat destruction, biological invasion, biodiversity conservation, fisheries, mariculture and harmful algal bloom.

**ENVM8018 Urban planning and environmental management**

This course lays down the challenges of achieving sustainability in cities. It highlights the important role of urban planning and its related tools and instruments in managing development pressure, mitigating environmental impacts, conserving ecological sensitive areas and achieving the society’s overall resilience. The course begins with an introduction to the fundamental functions and processes of planning. Illustrated with real-life case studies, the course then critically reviews the effectiveness of a series of planning tools, such as land use zonings, conservation trusts, partnership schemes, in resolving climate change and sustainability conflicts in both urban and rural contexts. The course adopts the Problem-based Learning approach where students will take lead and debate on selected current practice in the business sector, and thus guests from corporate sector will be invited to share their experience with students.

**ENVM8020 Green buildings and energy management**

One of the ways to tackle global climate change is to significantly enhance energy efficiency especially in buildings. This course will introduce the global trends in the green building movement with focuses on current energy management in new and existing buildings in Hong Kong e.g. BEAM Plus. The course will introduce various aspects of energy efficiency including laws and codes; assessment tools; methods to analyse energy uses in different types of buildings and practical energy conservation measures. This course stresses on practical knowledge and experiences in energy management in buildings. Thus, experienced practitioners in the field are engaged to deliver some of the course content. This course is accredited by Hong Kong Green Building Council Limited and BEAM Society Limited. Students upon passing the examination of the course and completing the MSc/EnMan programme will be able to register as BEAM Affiliate by the Hong Kong Green Building Council Limited.

**ENVM8022 Environmental management internship**

(For full-time students only)

This course provides an opportunity for students to undertake a placement in environmental management in universities, NGOs or commercial companies under the supervision of an experienced Environmental Practitioner or Faculty member. The student needs to work for at least 160 hours for the internship employer on either the first, second or summer semester. During the internship, the student needs to conduct a desktop study on a topic related to the internship job duties, which should be endorsed by the course coordinator.

More course information at: https://www.biosch.hku.hk/envm/structure.html
Admissions

Requirements

◊ A Bachelor’s degree with honours in any field
◊ Work experience is useful but not essential

How to apply

Application opens in **late December 2021**
Deadline for local applicants: **12 noon, June 30, 2022 (GMT +8)**
Deadline for non-local applicants: **12 noon, April 29, 2022 (GMT +8)**

Online application

admissions.hku.hk/tpg/

Further Information

Programme details

Support for students

Enquiries

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**Programme Director**
Dr Billy C H Hau
Tel: (852) 2299 0609 E-mail: chhau@hku.hk

**Programme Coordinator**
Dr Janet K Y Chan
Tel: (852) 2299 0614 E-mail: chanjky@hku.hk

Faculty of Science

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